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A Manual

of

Primary Lessons.

JANE F. BUTTRICK,
STATE NORMAL AND TRAINING SCHOOL,
POTSDAM, N. Y.

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Elliot Fay & Sons, Printers.
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PRIMARY READING.

In the following notes on primary reading, the word-sentence system, with the phonic as an aid, is assumed to be the one best adapted to secure the most desirable results. The mode of presentation followed facilitates intelligent reading by overcoming the difficulties encountered in the form of unfamiliar words, with their meanings, leaving the mind free to follow the thought.

The object in view is to present in the simplest possible language, plain, concise directions for teaching primary reading. The importance of supplementary reading is recognized and a list of books adapted to different grades is given. This list includes books valuable for regular class work.

In the selection of a first reader, consider the number of new words given and the frequency of their repetition; also the kind and variety of exercises introduced and the literary excellence of the reading matter. A firm binding, a good quality of paper and clear type are desirable.

Work of the First Term.

From eighteen to twenty-five pages of the first readers in ordinary use ought to be thoroughly mastered by the average class in their first term, together with supplementary reading in other first readers or in books adapted to this grade.

Begin with words, teaching from ten to twenty before combining them to form sentences. Write the words plainly upon the board, and little difficulty will be experienced by the pupils in finding them upon the chart or in their books. A chart is indispensable, and can be easily made if none is at hand, or if the one provided fails to supplement the reader in use. Manilla paper and one of the "Sign Markers" used by business men furnish material for such a chart.

Let the first words consist of the names of well-known objects. Allow pupils to associate them with other words in sentences of their own composing.

If the first word to be presented is "flag," have a flag in class, and after talking with the children about it, say that you will write a word upon the board that means flag, and that, whenever seen, will cause them to think of a flag. Erase, and write again and again, each time calling upon some child to pronounce the word. Write columns of words in which the word flag occurs many times and call upon each child to point to and name it. Change the order of the words frequently, that no child may name the re-

quired word from its position in the column. Then use the chart, and each member of the class will enjoy the privilege of examining its pages to discover the word flag, which is also left written upon the board, in order that the correctness of the chart work may be verified by comparing the word found there with the one left upon the board.

After a few words have been mastered, use them with "a," pronouncing it smoothly with the word following, as, "a mat," not allowing pupils to give it the long sound of a nor the short sound of u. Teach also, the word "the" in connection with other words, not allowing the e to be given the sound of short u, neither giving it its long sound, except before a word beginning with a vowel or vowel sound. The words now learned should be those found in the first pages of the reader.

Give particular attention to distinctness of enunciation. *Insist* upon a clear, distinct utterance of each word. Be persistent in efforts to overcome wrong habits of speech. Ascertain whether pupils have difficulty in seeing the blackboard or chart, or in hearing the teacher's voice, and so arrange the seating as to give such pupils every possible advantage in the way of seeing and hearing. Apparent slowness or dullness may sometimes be traced to one or both of these causes.

Whenever necessary, use the names of the letters. They will readily be learned by this incidental mention. Write the letters of the alphabet in their proper order at the top of the blackboard, leaving them there for reference.

Drill Exercises in the Recognition of Words.

I. Blackboard Exercise.

1. Write words upon the board, calling upon members of the class to name them. At the very first, have but one word upon the board at a time, that the mental impression may be clear and distinct. Work briskly in order to hold attention.

2. Write words in columns, calling upon members of the class to pronounce as fast as written.

3. Write words in columns and call upon the various members of the class to point to and name the word designated by the teacher, as often as it occurs, other pupils noting omissions and making corrections when necessary. Vary by asking one pupil to point to some word and call upon another pupil to name it and find the same word elsewhere in the column, the class to decide upon the correctness of the work. The teacher will find other ways of varying this drill.

4. Write words in columns and call upon the different pupils to name the words, one beginning at the top and naming downward, another pronouncing from the bottom of the list upward. Frequently change the order of

the words or write new columns, to prevent memorizing. Draw a vertical line at each side of the column, forming a ladder of words, which children are directed to ascend or descend without falling off. This device is very pleasing to children.

5. Write words promiscuously upon the board and call for certain words or for the names of all the words. Vary as suggested in paragraph 3, or speak of certain words as hidden among these scattered words and direct pupils to find them.

Note. When, from a similarity of some of its parts, one word is mistaken for another, as "bat" for "hat", write both words upon the board, one above the other, and call upon the child making the mistake to compare the words letter by letter.

II. Chart Exercise.

1. Write a word upon the board and call upon a pupil to pronounce and find it upon the chart as many times as it occurs, in both script and print. Allow the pupils to point to and name the word as soon as discovered. Hold the other pupils responsible for omissions and for correction of errors.

2. Let one pupil point to and name a word and another find one like it, pronouncing as he points it out.

3. Call upon one pupil to point to all the words he recognizes upon one page of the chart, or upon a part of a page, then call upon a second pupil for another page or part of a page, and so on.

4. Turn the pages of the chart and allow any pupil to point to and name any word he recognizes.

In finding words upon the chart, train children to some systematic order, such as examining the lines from right to left, beginning with the first line.

Call most frequently upon the slow and timid pupils, but defraud none of a due share of attention.

III. Exercise with Books.

1. Write a word upon the board, call for the pronunciation, then direct pupils to find it as many times as it occurs upon the page or portion of the page indicated. When the pupils think they have done so, call upon them in this manner. "How many times did Anna find the word?" Anna says, "Three times." Several do not agree with Anna. The teacher then calls upon Mary, who says she has found it four times. Perhaps John has found it some other number of times. The teacher does not decide who is right, but directs the pupils to look again, till the correct number is found by all. This insures careful and independent work. If some child insists upon having found the word a greater number of times than it really occurs, ask him to point them out for you, when it will be found that some word

similar in form has been mistaken for the correct one. This gives an opportunity for comparing the two and impressing the correct form.

2. Beginning with the first line, pronounce the words from right to left. This supposes the previous preparation of all words in the portion thus pronounced.

Note. As no thought is obtained by pronouncing the words of a sentence or paragraph in their reverse order, it is obviously incorrect to call this exercise "*reading backward.*"

Sentences.

When a sufficient number of words are so thoroughly mastered that the children recognize them without hesitation, form short, easy sentences, such as, "See the flag." "I have a ball." Begin by writing the word "See," have it pronounced, then add the words "the flag," and have the words "See the flag," read smoothly together. It is better to obtain correct expression in some other way than by imitation. Question the children, and if that fails, speak a sentence similar in form to show what you mean by the correct expression of thought.

When a sentence has been read by one child, erase and write a new sentence for the next child called upon. A succession of fresh sentences holds attention and avoids a parrot-like repetition of words without thought. Freshness and novelty arouse interest and hold attention.

Read, also, from the chart, using it as freely as the blackboard, in preparation for the reading-book. Teach children to read script and print with equal facility. When this is accomplished, decrease the amount of board work, using the chart freely in connection with their books. Finally, as the children gain facility in the use of their readers, gradually abandon the chart for reading purposes, using it only in drill work.

Reading from Books.

When the words of several pages of the primer or reader have been prepared as directed in the chart and blackboard exercises and in the special exercises and drill in the primer or first reader, the children are ready to read from their books. If this work of preparation has been carefully and thoroughly done, the children will be able to read without difficulty the short and simple sentences found in the first pages. After the first few pages, introduce another set of books, having a vocabulary as nearly as possible like that of the reader in regular use. This additional reading matter should be placed in the hands of the children only when needed for supplementary work, that it may not lose its interest and freshness. The repeated recognition of familiar words in new relations is of the greatest benefit to young readers. "Silent reading is an exercise which promotes intelligent thinking and intelligible reading. Specially prepared sentences are used for this purpose. These the child is required to read to himself and translate the thought into action. For example, the first sentence

reads, "The flag is on the chair." The pupils are directed to read it silently, then one of their number is called upon to "make it true," which he does by taking a flag, provided for the purpose, and placing it upon a chair, the other pupils watching to see that he carries the thought into action correctly. This exercise is one of the commendable features of the Riverside Primer and Reader.

Before attempting the reading of a lesson, be sure that all the words are so thoroughly prepared that both form and meaning are entirely familiar, in which case, the words, *as* words, no longer claim attention and the mind is free to grasp the thought expressed. The nervous tension apparent in high-pitched, unnatural tones and hesitating, monotonous reading, or, more properly, pronouncing words merely, with no idea of thought relation, is the inevitable result of a lack of preparation. Time and energy are wasted and reading becomes a painful task rather than the pleasant and profitable exercise it should be made. Children enjoy work when they are conscious of making a distinct gain in knowlege and skill.

As soon as practicable, do the work of preparing and of reading at separate periods. When this division can be profitably made, observe the following order:

1. Review and test of previous work or of that portion of it directly related to the work in hand. This may be accomplished by means of the blackboard and the chart. Write a word, erase quickly and call upon a child to pronounce the word, holding the other members of the class responsible for the correctness of the work. Continue with other words. Make this a lively exercise, and not only will the review be accomplished, but there will be a concentration of attention and an arousing of interest which will be of material advantage in the work immediately following this preliminary drill.

2. A phonic drill, to be conducted in a sprightly and interesting manner. The nature of this drill will depend upon what has already been accomplished. There may be an exercise with vowel sounds only, or with a combination of consonant and vowel sounds, as, a, ba, ma, etc. If a new word is to be presented, make the phonic drill a direct aid. Suppose the new word to be learned is "came," and it is desired to teach it by making use of the sounds already familiar. Let the phonic drill include the long sound of a, both singly and in combination with the hard sound of c. Keep the work moving briskly enough to hold attention and do not prolong the drill beyond two or three minutes.

3. Presentation of new words.

Many words may be profitably presented simply as words, or in connection with sentences. For such words as air, where, bird, this is the simplest and easiest way. If the word to be learned is the name of an object, it may be treated in a manner similar to that directed for the word flag. Or, write a sentence, of which the new word is to form a part, but omit the

word, so constructing the sentence that the desired word will be the one most naturally suggested as appropriate to supply the omission.

Whenever possible, make use of phonics in presenting new words. Take, for example, the word "came." First give a, then c hard with a, then add the m and e, calling for the sounds and combinations in the order presented, till the child discovers the name of the word. That the e is silent is indicated by drawing an oblique line through it. Give necessary drill by first using the word in a sentence to illustrate its meaning, or otherwise defining it, then finding it in a paragraph or upon a page as many times as it occurs; then, as soon as children can write, by sending them, either separately, or by twos and threes, or all together, to the board to write it, verifying by comparing their word with the word as written by the teacher. It is desirable that the children should do independent work, therefore the teacher writes the correct form *after* the word is written by them. If mistakes are made, direct all to erase, then to look at the word again and write it once more. Give individual help in forming the letters and in the correction of mistakes, till the correct form is impressed. This takes time, but a word thoroughly mastered is seldom forgotten, while the discipline gained aids in the mastery of other words. Continued drill of this kind enables pupils to obtain the correct form of a word at a single brief glance. As a further test, have the lesson pronounced from right to left, beginning with the first line. When this can be done readily, the preparation is complete.

The order of procedure in preparing reading, after the first few weeks, is, therefore:

1. Rapid recognition of words at sight from the chart, with the use of the blackboard also, if necessary.
2. Phonic drill.
3. Presentation of new words.
4. Drill upon the new words according to directions already given.

In reading, the order is as follows:

1. Rapid recognition of words at sight, as in preparing reading.
2. Phonic drill.
3. Reading at sight, from books.

Supplementary Reading for the First Term.

Prepare all new words the same as for the regular reader, with one exception. No writing need be done by the children, but the form and meaning should be made perfectly familiar before the reading is attempted.

As the thorough preparation of a lesson requires more time than the reading, devote the intervening time to supplementary reading. By this means, a pleasing variety is afforded, the interest is stimulated and the vocabulary enlarged, in addition to the greater freedom gained in the use of the words already at command. It will be advantageous to use the first

few pages of several first readers. Primary readers differ so little in vocabulary, that several can be read in little more than the time usually given to one. Make the work bright and interesting. Train the pupils to attack difficulties cheerfully and courageously, and give commendation in the same cheerful and hearty spirit.

Work of the Second Term.

Preparing Reading.

During the first half of the second term, proceed as directed in the last quarter of the first term, varying as the advancement of the class may demand. Require more written work and do less with the chart. The children should now be able to write the new words from dictation with but little assistance, and should be able to recall readily all words given in review.

As early, at least, as the latter half of the second term, require the oral spelling of all words given in the blackboard review and test. To conduct this exercise, write a word upon the board, erase quickly and call upon a child to spell, pronouncing syllables, and naming the mark of accent at the proper place, pronouncing the word *after* and not before spelling. Children are very soon able to observe, with great quickness and accuracy, all the letters in a word, in their proper order, even when an unfamiliar word is thus presented. Hold the eraser in the hand not employed in writing, and pass it quickly across the word as soon as the last stroke is made, at the same instant pronouncing the name of the child who is to spell. For the convenience of the teacher, the words may be written upon a slip of paper just wide enough to place upon the back of the eraser in use. Hold the entire class responsible for the work of each one of its members. Two or three minutes given to a rapid exercise of this kind arouses interest and concentrates the attention upon the work in hand, of which the teacher should not fail to take advantage. Follow with a brightly conducted phonic drill of about two minutes. Let these two exercises precede both the presentation of new words in the period devoted to the preparation of the reading lesson, and the opening of books in the reading period. In connection with the drill work, and in addition to the combinations suggested, teach children to recognize and pronounce syllables, as a whole. Teach, for example, that i n g is to be recognized as "ing," t y as "ty," (short sound of y,) n e s s as "ness," etc. This provides a means of self-help. In many cases, a familiar word, syllable or combination may be found within the new word presented. For instance, the word "in" is found in spin, the syllable "ing" in bring, the combination "ight" in bright. Practice gives facility in the construction of words, and, in the case of exceptions,

in changing the sound of the vowel in the word, syllable or combination recognized. In this grade, the new words, as far as possible, should be presented with phonic aid, or by referring to type words. The word "air" may be given as a type word for that sound of a, to be referred to whenever a word containing that sound is presented. Her, there, sir, fur, etc., may be similarly used. Mark the type words diacritically. As soon as the new word is known, have it used in a sentence or explained in the children's own language, which is better if it is a suitable word to be so explained. Children would be able to give their own ideas of a boat, lake, toy, etc., while such a word as "there," used to begin a sentence, could not be so explained. Next have the words found in their books, as directed in the first paragraph under "Exercise with Books," in the work of the first term. Now dictate the word, the entire class writing it upon the board. When sufficient time has been given in which to write the word, the teacher spells it, pronouncing syllables and mentioning the mark of accent, if not a monosyllable, the children following the spelling, comparing it with their own and noting mistakes. In case of incorrect spelling, the word is erased and again written by all. Follow with a review word, erase, pronounce the new word again, then return to seats for further work. When all new words have been learned, pronounce from right to left as directed in previous work. It will be seen that the order of work is the same as in the first term, second quarter.

The number of pages that can be covered in the first year depends upon the primer or reader in use. Many could be finished, while others, containing work adapted to the second year, require a longer time.

Reading.

Order of work.
1. Spelling at sight, as in preparing work.
2. Phonic exercise.
3. Reading at sight.

The first two exercises should be given briskly and should not occupy more than five minutes. While reading, insist that the children stand erect and hold the book correctly, using the right hand to steady it if necessary. While a child is reading, allow no interruptions from other members of the class. It is better to hold the class responsible for a decision upon intelligent expression of thought, than to have them so occupied in remembering some omission or mispronunciation as to be unable to give further attention to the subject of the lesson. The important thing for those listening is to be able to judge whether the reader gives such clear and intelligent expression to the thought obtained from the selection, that they are able to follow him without difficulty, or whether the reverse is true. Such reading is to be commended, though small mistakes occur. But if it is evident that the child is gaining no thought, he should not be allowed to proceed until the difficulties in the way are discovered and removed. To allow mistakes to pass uncorrected, would encourage carelessness. So

when a child has finished reading, write any mispronounced words upon the board and call upon him to correct his mistakes. In case of omissions, direct him to re-read the sentence or paragraph containing them. At the close of the selection, either give each child the opportunity of reproducing some part of it in his own language, or call upon one to reproduce, while others listen, and supply, at the close, any omitted portions. Encourage thoughtful attention by allowing an expression of ideas or opinions concerning characters or incidents mentioned.

For reasons already given, take supplementary reading, rather than read a lesson the second time, when the selection prepared does not occupy the entire period devoted to this subject.

Supplementary Reading

Supplementary reading should be less difficult than the regular reading matter and should be read at sight. Make a careful selection adapted to the needs of the class, call attention to unfamiliar words by placing them upon the board, marking diacritically if necessary, and obtain the pronunciation and definition. If there are lists of words, have them pronounced by one or more, varying the order, then read at sight.

The ability to read orally at sight is a matter of training. Granted the necessary vocabulary, and the habit of seeking thought and expressing it at a first reading may be acquired. Of course the thought must be within the scope of the child's ability and be so expressed that he may be able to grasp it. Sentences are sometimes so constructed as to obscure the thought and call for study and discussion before their reading is attempted. The detection of such sentences is a part of the teacher's preparation.

The reading matter for children should treat of such subjects or incidents as may, in some manner, be related to their own experiences. In fairy tales and in Mother Goose rhymes and melodies, so fascinating to children, some, at least, of the characters are real to them, and phases of the incidents narrated touch their experiences at some point, however faintly, or affect them with a suggestion of something real. For this reason, some of Æsop's fables have such an attraction for young children that they never tire of hearing them, while others have little or no attraction for them.

But whatever may be the special object in view in dealing with the experiences of children in the different phases of development, whether the reading be chosen for the training of imagination, for ethical purposes, for information, or for any distinct purpose whatever, nothing should be allowed that will not tend to the cultivation of a good literary taste. And in the furtherance of this aim of creating and fostering an appetite for good literature, read to the children choice selections from some of our best authors, many of whom have written for their special delight, keeping ever in mind that "the end of learning to read is to read great books."

Second Year.

Finish the second reader in regular use, with supplementary work in other readers or in books adapted to this grade. Proceed with both preparation and reading in the same general manner as in the first term, but throwing the pupils more and more upon their own responsibility.

Preparation.

1. A rapidly conducted exercise in spelling at sight from the board.

2. Phonic drill. In the second year, the children should be trained in the use of all the diacritical marks, and, with the exception of those sounds for which type words are recommended, the vowel sounds, combinations of vowel and consonant sounds and equivalents in vowel and consonant sounds. Nearly all the consonant sounds may be learned separately, but the sounds of b, d and g will be more correctly given by children at first, if taught in combination with a vowel sound. Let the consonant precede the vowel, in the special training. When the pupils have had sufficient experience, these sounds may be uttered separately. Continue the drill on syllables, such as, less, ness, ty, tion, etc.

3. Presentation of new words, with phonic aid. When the words are arranged in columns at the head of a lesson, direct the pupils to examine the columns for any unfamiliar word and make it known to the teacher, who writes it upon the board with its proper diacritical marks. It is then pronounced and defined and the search for new words continued. When all have been discovered, let the columns be pronounced. When the words are not arranged in columns, examine the lines for those not already familiar.

4. Pronounce as previously directed.

Reading.

1. Blackboard review and test.

2. Phonic drill.

3. Reading at sight the lesson previously prepared, or employing the time in supplementary reading, or in reading to the children some appropriate and well-chosen selection.

Third Year.

The pupils should be ready for a third reader or one of the many excellent books adapted to the work of this grade. During the first quarter, prepare as directed for the preceding term. The pupils now have a good

vocabulary and should accomplish considerably more than in the lower grades. Teach them how to use the dictionary, holding them responsible for the pronunciation and definition of one or two words daily, the required words to be taken from the lesson then in preparation, and written upon the board to be copied by the class. After the first quarter, as soon as pupils can use the dictionary to advantage, work in synonyms may be substituted for the exercise in spelling at sight from the blackboard, but phonic drill should not be entirely discontinued. Bring the dictionary before the class, select a common word and show the pupils how to find the synonyms for that word. Call for synonyms for one word each day and write the list upon the board as the children give them, explaning, as far as necessary, the shades of meaning conveyed by those words which are not exact synonyms.

At this time, follow a different plan in preparing a lesson. Write the words upon the board in a column, each word marked diacritically, pronounced and defined, when written. The pupils copy the list into their spelling-blanks, then compare with the list upon the board, which may then be erased. Direct the pupils to look intently at the first word, then cover it, recall its form and verify by another quick glance. Studying the list once in this intent manner, ought to master it. Now send to the board to write, as directed for other grades, or use paper and pen or pencil. Dictating sentences containing the words of the daily lesson, affords a good test. The pupils should now be able to read at sight, without pronouncing as in the lower grades.

To stimulate interest and cultivate a taste for good literature, frequently read to the class some story or poem, possessing literary merit and within the comprehension of the pupils. Give the name of the author, with some information concerning his life and works, or some interesting incident in connection with the story or poem read. Stories or poems upon historical subject such as "Paul Revere's Ride," are both interesting and instructive when treated as suggested. But both the selection made and its treatment will depend upon whether the end in view is information or culture. This is also true of supplementary reading matter. The choice of the regular readers (when the teacher is allowed a choice) expresses in a broader way, the thought that determines this choice.

Continue to give attention to pitch, tone, and to the correction of such habits as drawling, sing-song, nasality, etc. Question for the thought, or discuss and explain whatever may be too difficult for them to comprehend unaided, and thereby avoid the common fault of too many falling inflections, generally due to an absence of intelligent thought in relation to some idea expressed. But say nothing to the class about inflections, neither call attention to punctuation, which has to do with grammatical construction. See that there is intelligent thinking, and intelligent expression will follow.

Exercises That May be Used in Any Grade to Which They are Adapted.

1. Write a letter, diacritically marked, upon the board, and call for words containing the sound represented.

2. Write a combination of letters, as ma, and make a list of words containing that combination, with the same vowel sound.

3. Write a word containing five or six letters, and call for as many words as can be made by rearranging the letters. Thus, from the word learn, can be made ear, an, ran, near, etc.

4. Write letters promiscuously upon the board, and call upon a pupil to spell any word he chooses, by pointing out, in their proper order, the letters composing it, pupils at their seats following the spelling and pronouncing the word.

5. Make a list of words in which the sound of the vowel is changed by the addition of silent e, thus, hop, hope, etc.

6. Make a list of words which double the final consonant before adding ed or ing.

7. Make a list of words ending in f or fe, whose plurals end in ves; e. g., loaf, loaves.

The above and similar exercises may be made useful as "busy work." Children enjoy using boxes of letters with the first four exercises named above.

The books of the following list may be used either for supplementary reading or for regular work.

First Year.—First Term.

Riverside Primer and Reader.—Houghton, Mifflin and Co., New York. (Excellent for regular use.)

Baldwin's First Reader.—American Book Company, New York.

Normal First Reader.—Porter and Coates, Philadelphia.

Stepping Stones to Literature. A First Reader.—Sarah Louise Arnold and Charles B. Gilbert. Silver, Burdett and Co., New York.

The Finch Primer. (Colored illustrations)—Ginn and Co., Boston.

Our Little Book for Little Folks. (Colored illustrations)—American Book Co., New York.

The Werner Primer. (Colored illustrations.) Better adapted to the kindergarten primary.—The Werner School-Book Company, New York.

The Graded Supplementary Reader.—Prof. Tweed. Lee and Shepard, Boston.

Second Term.

The books named above, also

Nature's Byways.—The Morse Publishing Company, New York.

The First Year Nature Reader. (Colored illustrations.)—The Werner School Book Company, New York.

Nature Stories for Young Readers.—M. Florence Bass. D. C. Heath and Co., Boston.

Second Year.—First Term.

The Riverside Primer and Reader, Nature's Byways and The First Year Nature Reader, contain suitable reading matter for the beginning of the second year. Also the following:

Aesop's Fables. Vol. I.—Educational Publishing Co., New York.

Skyward and Back.—School Educational Co., Minneapolis, Minn.

Thompson's Fairy Tale and Fable.—Morse Publishing Company, New York.

The Graded Supplementary Reader. Second Grade.—Prof. Tweed. Lee and Shepard, Boston.

Second Term.

Thompson's Fairy Tale and Fable. (For supplementary work.)—Morse Publishing Co., New York.

Baldwin's Second Reader.—American Book Co., New York.

Stepping Stones to Literature. A Second Reader.—Silver, Burdett and Co., New York.

Aesop's Fables. Vol. II.—Educational Co., New York.

Third Year.—First Term.

Baldwin's Third Reader.—American Book Co., New York.

Fairy Stories and Fables.—American Book Co., New York.

Golden Book of Choice Reading—American Book Co., New York.

The Graded Supplementary Reader. Third Grade.—Prof. Tweed. Lee and Shepard, Boston.

Second Term.

Stepping Stones to Literature. A Third Reader.—Silver, Burdett and Co., New York.

All The Year Round. (Four books, Spring, Summer, Autumn, Winter.) Ginn and Co., Boston.

Anderson's Fairy Tales.—Stickney. Ginn and Co., Boston.

Stories of Colonial Children.—Ed. Publishing Co., New York.

Fourth Year.—First Term.

Anderson's Fairy Tales, and Stories of Colonial Children, contain reading matter adapted to this grade. In addition, we have

Fables and Folk Stories.—Horace Scudder. Houghton, Mifflin and Co., New York.

The Cyr Third Reader.—Ginn and Co., Boston.

Second Term.

Stories of American History.—N. S. Dodge. Lee and Shepard, Boston.

Historical Reader.—Alma Holman. The Morse Publishing Co., New York.

Baldwin's Fourth Reader.—American Book Co., New York.

Stories of Great Americans for Little Americans.—American Book Co., New York.

Stories of American Life and Adventure.—American Book Co., N. Y.

Stepping Stones to Literature. A Fourth Reader.—Silver, Burdett and Co., New York.

A First Book in American History.—Edward Eggleston. American Book Co., New York.

Fifth Year.—First Term.

Children's Stories of American Progress.—Henrietta Christian Wright. Charles Scribner's Sons, New York.

Hawthorne's True Stories of New England History, and Hawthorne's Tanglewood Tales.—Houghton, Mifflin and Co., New York.

Ten Boys Who Lived on the Road From Long Ago to Now.—Jane Andrews. Ginn and Co., Boston.

Second Term.

Young Folks' Robinson Crusoe.—Lee and Shepard, Boston.

Stepping Stones to Literature. A Fifth Reader.—Silver, Burdett and Co., New York.

Six Stories from the Arabian Nights.—Lee and Shepard, Boston.

The Picturesque Geographical Reader.—Lee and Shepard, Boston.

The Historical Series, by Jas. Johonnot, extends through four years, beginning with the fourth. Published by the American Book Co. The American History Series, in four volumes, by Mara L. Pratt, extends from the fourth to the sixth year. Published by the Ed. Publishing Co., New York.

For more advanced grades, a few readers are enumerated: The Sixth and Seventh Readers of the series "Stepping Stones to Literature," Kingsley's

Water Babies, The Peasant and The Prince—Martineau, published by Ginn and Co., English Classics for School Reading, in six numbers: Fairy Tales, Tales of Chivalry, Tales of Scottish History, Tales of English History, Shakspeare's Comedies, Shakspeare's Tragedies, published by Harper Bros., New York; Stories of Industry, Ed. Publishing Co.

For reading adapted to special subjects, we have Nature Readers—Seaside and Wayside, in four numbers.—D. C. Heath and Co.; Leaves from Nature's Story Book, in three numbers.—Ed. Publishing Co.; Animal Life. D. C. Heath, Boston.

Other series and books worthy of mention, are, Historical Tales, by Morris; Seven American Classics, by Swinton; Kingsley's Greek Heroes, by Tetlow; Historical Tales, by Martineau; and, for the little people, Longman's Fairy Tale Books, in six numbers, published by Longmans, Green and Co., and The Young Folks Library, in five numbers, published by Silver, Burdett and Co., besides several juvenile magazines very attractive to young people, with many other worthy books, both singly and in series.

SPELLING.

As correct spelling is chiefly valuable in written composition, it follows that written spelling should receive a greater share of attention than oral spelling.

Preparation of Lesson.

Below the fourth reader grade, the spelling should be made a direct aid to reading by taking the spelling lessons from the reader, keeping just in advance of the reading lesson. This is profitable even in a higher grade. Whether the spelling lessons are taken from the reader or the speller, prepare them carefully before requiring their study by the pupils. The following directions are designed for the third reader grade, but will apply to other grades.

If the lesson is taken from the reader, write the words upon the board properly syllabicated, mark the accented syllable, capitalize when necessary, also use whatever other mark may be necessary to the correct spelling, as hyphen or apostrophe. Call attention to any peculiarity or difficult combination of letters. Have each word pronounced correctly, and, if necessary, defined or used in a sentence. The pupils may then copy for further study.

If the speller is used, pronounce and explain, as previously suggested. In the further preparation, direct the pupil to look intently at the word, in order to get a correct impression, remove the eyes from the page or cover the word, recall the mental picture, verify by again looking at the word, then write it and compare with the printed word. Studying a lesson once, in this thorough manner, ought to give a mastery of it.

Spelling Exercise, Using Paper or Spelling Blanks.

Pupils write their names neatly at the head of their papers, and number each word as written. Pronounce the words distinctly and naturally, not giving undue prominence to the syllables composing it. As a rule, pronounce a word but once; *expect* attention and allow just sufficient time for the writing. Give no time for inattention. As soon as the last word is spelled promptly collect the papers or spelling blanks. Make a list of the words mispelled, and write them, correctly spelled, upon the board, for the pupils to copy in a book kept for that purpose. Do not place the incorrect form before them, even for the purpose of correction. Give a certain number of these in connection with the following lesson. It is a good plan to give a number of review words in connection with the advance lesson, each day. The length of the lesson should depend upon its difficulty. If the speller is adapted to the grade, and the words have been prepared by the teacher, as suggested, ten words, some of which would probably be familiar, would not be too many. The lesson should not be so difficult as to discourage, nor should it be so easy as to require but little effort. Give a written test once each week.

Suggestions for blackboard spelling exercises are given in the directions for preparing reading.

By way of variety, give an occasional exercise in oral spelling. An oral review, separating the class into two divisions, equal in ability, may be made both interesting and profitable. In oral spelling, the pupil should be required to pronounce the word both before and after spelling, to syllabicate properly, and to name capital letters, hyphen and apostrophe, when used.

Dictation exercises, consisting of sentences containing one or more of the words of the spelling lesson, may also be given.

OBSERVATION LESSONS. First Year.

Teach children to be observing, to perceive quickly and accurately. Ask one child of a class to report at the next daily recitation, all he saw in a certain allotted distance,either on the way home or when coming to school. Or ask him to observe some particular objects, as the trees, flowers, houses, fences, in a certain distance; or observe one house closely, describing it as it appears from the street, its general form, size, color, number of windows and doors visible, their size and shape, with or without blinds, veranda, porch, any peculiarity of construction, as shape of roof, chimneys, their size and number, etc. Another child, who passes some shop or store window, describe what was seen in one window, limiting the time in each case. Another will perhaps notice the birds, their songs, flight, color, wnether seeking food or feeding their young, etc. Avoid asking too much of any child at one time. If they have been instructed to hasten home, direct them to look quickly, without pausing. After some experience, direct them to try how much they can perceive in a single glance at a window, tree, house, etc.

As the experience is related, quietly and unobtrusively correct any inaccuracies of expression. Make this exercise definite and to the point. Do not allow it to degenerate into mere gossip concerning people or premises, or into talk about themselves in connection with what is described.

For a different exercise, ask a child to bring with him some little object that attracts his attention, as a twig, blade of grass, bit of stone, a flower from home, etc., for examination. A small magnifying glass is a convenience for making closer examination. Habits of observation, quickness of perception, a command of language and much useful knowledge may be gained from such lessons.

Memory and Language Lessons.

Read or tell a short story and require its oral reproduction, giving attention to the language employed. At first, stories of three or four sentences will be found long enough. After some experience, write the reproduction, as given by one child, upon the board, call upon others for corrections, then read the original story and compare it with the reproduction upon the board. Bright, interesting stories from juvenile books or magazines, may be used in a similar manner.

Lessons for the Cultivation of Language and for Training the Imagination.

Hold up a picture containing but few details. The children examine and state what they see, then decide upon a title for the story to be written upon the board. The pupils then compose a story, sentence by sentence, the teacher holding them to some regular order, not allowing them to give one sentence about one thing, a second about something different, etc., but making a smooth, connected story, giving needed assistance in forming correct sentences. The sentences are written upon the board as fast as given. The figures in the picture furnish the foundation for the story, the imaginations of the children supplying the details. When the story is finished, it is read by the teacher and the class is given the credit of its production. After some practice, the pictures presented may contain more details. Hold the children closely to clear, definite, concise language. Some children will need to be encouraged to greater freedom of imagination, others will need restraining. Allow no statements of impossibilities. Many children need this training in order to check a too vivid imagination, (phantasy) and to train them to keep their statements within legitimate bounds. Sometimes, each member of the class may be given a small picture, and, after examining it, be allowed to tell a complete story, giving the title and imagining some little incidents concerning what is found in the picture.

SIZE.

FIRST YEAR.

Relative Size.

Apparatus. Blocks, balls, boxes, books, sticks, pencils, strings, strips of paper, ribbon, lines on the board, etc. The objects compared should differ in size, but be of the same kind.

1. Give general idea of size—large, small, larger, smaller, largest, smallest.

2. Consider size in certain directions, as, long, short, longer, shorter, longest, shortest; broad, narrow, broader, narrower, etc.; thick, thin, etc.; deep, shallow, etc.; and any other relative terms that may be considered advisable. Teach long and short first.

Teach comparative before absolute or standard length, because, in order to teach absolute length, it is necessary to have a knowledge of the standard of length—the yard, and compare the given length with the standard. Absolute length, therefore, depends upon relative length.

SECOND YEAR.

Standard of Measure of Length.

Before giving the term yard, teach the necessity for a standard of measure, by showing the need of something more definite than long and short.

Suggestions for Lessons on the Yard as the Standard of Measure of Length.

1. Show the necessity for more definite terms than long and short. 1. Use these terms when sufficiently definite, as in directing pupils to select long strings, etc. 2. Use the terms when not sufficiently definite, as in asking for a long string—as long as the one held by the teacher. After trial, pupils will see that they must know "how long" the string is, or in other words, must use it as a *measure*. Now suggest sending a pupil for a ribbon long enough for some special use. If this suggests to them that ribbon is sold by the yard, have them tell what they know about it, select the yard measure and use it in measuring. But if this is not the case, if they suggest taking a string of the desired length, mention several articles of different lengths which are to be purchased at the same time, suggest the possibility of losing the measures or of forgetting which is for the ribbon, etc., and of the inconvenience to both purchaser and dealer. Recall their own experiences in visiting a store, and in seeing articles measured at home.

Teach, in addition, that the yard is always of the same length and that this length is established by law.

After the yard is taught, teach half-yard and quarter-yard. As the different divisions are found, build up the table; e. g., when the pupils state that

there are two half-yards in a yard, write this upon the board. Do the same for the quarter-yard. The tables, as first written, will stand:

2 half-yards make 1 yard.
4 quarter-yards make 1 yard.
2 quarter-yards make 1 half-yard.

Then change to fractional form and teach repetition marks and the abbreviation for yard. The table will then be in this form:

$\frac{2}{2}$ yds. = 1 yd.
$\frac{4}{4}$ yds. = 1 yd.
$\frac{2}{4}$ yds. = $\frac{1}{2}$ yd.

Using the yard measure, divide the yard into three parts or feet. Divide the foot and get inches, by counting the divisions in a foot measure. Write the result of the work as follows:

3 ft. = 1 yd.	9 in. = $\frac{1}{4}$ yd.
36 in. = 1 yd.	12 in. = 1 ft.
18 in. = $\frac{1}{2}$ yd.	6 in. = $\frac{1}{2}$ ft.

Suggestions for Drill in Drawing Lines One Yard in Length.

Using the yard measure, draw a line upon the board one yard in length. Have the pupils look at this, then send them to the board to draw lines of the same length. Direct them to step back far enough to get a correct comparison with the line drawn by the yard measure. Allow them to correct their lines, then take their seats. Call for a decision as to the accuracy of the line drawn by each pupil, comparing each one with the line of the correct length, which still remains upon the board. As the decision is made upon each line, verify by measuring with the yard measure. If the line is too long, mark the correction as follows:

If too short indicate it in this way:

The short vertical line denotes the point to which the line should have been drawn in order to measure one yard.

After erasing very carefully, allow the pupils to try again. Do this for a number of times, then erase the measure and let them draw from memory. Pupils take different places at the board each time. A little practice will enable them to draw lines of the correct length. Give practice in drawing lines one-half and one-quarter of a yard in length, also one foot, one-half foot, one inch, two inches, etc. Give variety by sending several pupils to draw, while others judge of the accuracy of their work.

MEASURES.

Liquid Measure.

Pursue the same general plan as in *length*. Show necessity for a standard of measure. Present the gallon as the standard. After gallon give half gallon, then $\frac{1}{4}$ gallon. Give term quart, divide into two parts, give term pint, then half pint and gill. Use water for measuring.

Table.

$\frac{2}{2}$ gal. = 1 gal.
4 qts. = 1 gal.
2 qts. = $\frac{1}{2}$ gal.
2 pts. = 1 qt.
4 gi. = 1 pt.

Dry Measure.

The general plan is similar to that for liquid measure. May use salt, sand, bran, sawdust, or any other substance conveniently obtained.

Table.

$\frac{2}{2}$ bu. = 1 bu.
$\frac{4}{4}$ bu. = 1 bu.
4 pks. = 1 bu.
$\frac{2}{2}$ pks. = 1 pk.
8 qts. = 1 pk.
4 qts, = $\frac{1}{2}$ pk.
2 pts. = 1 qt.

WEIGHT.

Third Year Work.

1. Comparative Weight.

Provide several objects or parcels of equal weight, others nearly equal, and a few having a marked difference in weight. Direct a pupil to hold out both hands, place a parcel upon each and call upon him to decide which is the heavier. Then change the parcel in the right hand over to the left hand, and again ask for a decision. Call upon more than one pupil to decide upon the comparative weight of the same parcels. When the pupils are able to decide quite accurately, verify by means of the balances; or, if no balances or small scales are at hand, use steelyards.

2. Absolute or Standard Weight.

Present the pound as the standard and obtain the table:

16 oz. = 1 lb.
8 oz. = $\frac{1}{2}$ lb.
4 oz. = $\frac{1}{4}$ lb.

Give practical application in weighing by playing store, using toy money. This may be obtained from Milton Bradley Co., Springfield, Mass. Salt, sand, beans, peas, bits of stones, wooden cubes, marbles, etc., may be used to represent the various articles sold by weight. Use paper bags, or teach the pupils to make neat parcels. In buying and selling articles, give current prices. While the pupil acting as merchant is weighing the desired commodity, the customer selects from the box the money to be paid and states to the class the sum he intends to give the merchant. Hold the class

responsible for a decision upon the correctness of all the work, including accuracy in weighing, making payment and returning change, if more than the exact sum necessary for payment is given. In making change, the merchant mentions the value of the packages, as is done in actual business transactions, e. g. The customer gives the merchant twenty-five cents for a package costing twenty cents. The merchant, in returning the change, hands over the package, with the change, counting the package twenty cents, and, adding the five cents, making the change and the value of the package equal the twenty-five cents given him by the customer. Continue the work until the pupils become quite expert in weighing and making change.

OBJECTS AND QUALITIES.

Suggestions for Lessons upon Objects and Qualities.

The following suggestions deal with miscellaneous lessons and are of use to give variety to school work, to encourage habits of observation, to cultivate language and to increase knowledge.

PART I.

The object lessons given to young children should be quite simple. If the object is a box, give relative size, as large or small, general shape, color, material, parts and their names and uses, position of parts, corners, edges, how the parts are put together, any peculiarities of construction, as grooves, if the box has a sliding cover, label and its use, etc., and the use for which that particular box is designed. When one box has been described, present another which is different in construction, shape, color, material, or the use for which it is designed, or all of these combined. Then allow pupils to talk about other boxes and their uses. Be watchful of the language employed, substituting correct expressions for whatever may be incorrect, but so quietly and unobtrusively as not to check the interest or enthusiasm of the children.

If the design of the lesson is to get a general idea of objects belonging to a certain class, as, for example, lead pencils, supply each pupil with one of the objects under consideration, and let each examine and state what he finds true of the one he is examining. Give as much of the manufacture as pupils can understand.

PART II.

When pupils become older, give lessons upon qualities separately having before the class several objects possessing the quality to be discovered. After giving several lessons of this kind, give lessons upon objects containing these qualities, and, in addition, lead pupils to discover qualities not previously mentioned. After considering a quality in connection with the ob-

jects before the class, require pupils to name objects not present, which possess that quality.

It will be noticed that *particular*, not general statements, are made in connection with these lessons on qualities. The objects possessing these qualities are definitely stated. The names of only a few objects are enumerated, but many others should be given. It is well to have before the class, by way of contrast, objects not possessing the quality under consideration.

List of Qualities Upon Which Lessons may be Given, Either Separately or in Connection with Objects.

Brittle.—Because crayon, glass, china, etc., break easily with a snap, they are said to be brittle.

Tough.—

Porous.—Because bread, sponge, etc., are full of little holes, or pores, they are said to be porous.

Fibrous.—Because, rope, corn stalks, etc., are made of little threads or fibers, they are said to be fibrous.

Liquid.—Because water, milk, etc., can be poured out in drops, and conform to the shape of the vessel containing them, they are said to be liquid.

Solid.—Because sand, corn, stone, etc,, cannot be poured out in drops, they are said to be solid.

Crumbling.—Because bread, cake, etc., break easily into little pieces, (crumbs) they are said to be crumbling.

Odorous.—Because camphor, perfumery, etc., have an odor they are said to be odorous.

Inodorous.—

Fragrant.—Because roses, oranges, cinnamon, etc., have a pleasant odor, they are said to be fragrant.

Acid.—Because lemon, vinegar, cream of tartar, etc., have a sour taste, they are said to be acid.

Flexible.—Because whalebone, etc., bend easily without breaking they are said to be flexible.

Elastic.—Because rubber will bend when pressed, and return to form (or shape) it is said to be elastic.

Opaque.—Because milk, stone, wood, etc., cannot be seen through, they are said to be opaque.

Transparent.—Because glass, water, air, etc., can be plainly seen through, they are said to be transparent.

Semi-transparent.—

Sapid.—Because bread, milk, etc., have a taste, they are said to be sapid.

Insipid.—Because water, etc., have little or no taste, they are said to be insipid.

Palatable.—Because bread, milk, etc., have a pleasant taste, they are said to be palatable.

Wholesome.—

Nourishing.—

Saline.—Because salt, etc., have a salt taste, they are said to be saline.

Combustible.—Because cloth, sponge, wood, etc., will burn, they are said to be combustible.

Inflammable.—Because wood, etc., burn with a flame, they are said to be inflammable.

Durable.—Because hard wood, iron, etc., will last a long time, they are said to be durable.

Hard.—Because wood, iron, etc., do not give or yield easily to the touch, they are said to be hard.

Soft.—Because wool, sponge, etc., give or yield easily to the touch, they are said to be soft.

Buoyant.—Because wood, cork, etc., float upon the water, they are said to be buoyant. (Also mention buoyancy of objects in air.)

Absorbent.—Because bread, sponge, etc., soak up or absorb water, milk, etc., they are said to be absorbent.

Sparkling.—Because salt, loaf sugar, etc., shine or sparkle in little points, they are said to be sparkling.

Granular.—Because salt, sugar, etc., are made up of little grains, they are said to be granular.

Vegetable.—Because trees, grass, etc., grow from the ground, they are said to be vegetable.

Animal.—Because leather, etc., are obtained from animals, they are said to be animal substances.

Mineral.—Because iron, lead, etc., are dug from mines in the ground, they are said to be minerals.

Natural.—Beause God made trees, grass, etc., they are said to be natural.

Artificial.—Because flowers, fruit, etc., are made by man to look like those made by God, they are said to be artificial.

Useful.—Because wood, iron, etc., are of use to man, they are said to be useful.

Adhesive.—Because gum, sealing wax, (when heated,) etc., stick or adhere, they are said to be adhesive.

Soluble.—Because sugar, salt, etc., will dissolve in water, they are said to be soluble.

Caution.—If substances not soluble in water but soluble in spirits are mentioned, be sure to *name the solvent.*

Insoluble.—

Compressible.—Because bread, sponge, etc., can be made smaller by squeezing or pressing, they are said to be compressible.

Incompressible.—

Preservative.—Because sugar, salt, saltpeter, etc., will keep or preserve meat, fruit, etc., they are said to be preservative.

Aromatic.—Because cinnamon, sassafras, etc., have a fragrant odor, and pleasant, spicy taste, they are said to be aromatic.

Pungent.—Because pepper, mustard, etc., have a sharp, hot, biting taste, they are said to be pungent.

Fusible.—Because wax, lead, etc., will melt, they are said to be fusible.

Pulverable.—

Ductile.—

Pliable.—

Reflective.—

Permeable.—

Impermeable.—

Medicinal.—

Manufactured.—

Methods of Test and Review.

1. Teacher name the object, pupils give all the qualities that apply.

2. Teacher name qualities, pupils name the object possessing those qualities.

3. To test for some particular quality. *a.* Teacher name the quality, pupils name the objects possessing that quality. *b.* Some pupil name a quality, other pupils name objects possessing that quality.

4. The teacher may have, concealed from view, some object with which pupils are familiar, but upon which no lesson has been given. The teacher may name the qualities possessed by that object, and the pupils decide upon the object from the qualities named, e. g. The teacher has an orange and says, "This object is spherical, odorous, somewhat rough, sapid, juicy, palatable, wholesome, useful, vegetable, etc.," naming whatever other qualities may be necessaay to a clear conception of the object, placing color last, in this case. Pause slightly after each word, giving the pupils an opportunity to mention whatever object is suggested by the quality named. Give parts also, if necessary, not naming so rapidly that the pupils will be unable to gain a clear concept of the object described.

5. Composition lessons may also be given as reviews.

Suggestions for a Lesson on Bread.

I. Qualities.

Bread is white, soft, porous, opaque, odorous, crumbling, solid, adhesive, (when wet), compressible, palatable, wholesome, nourishing, fermented, useful, etc. etc.

II. How qualities are discovered.

1. By sense of sight we know bread is white, porous, opaque.

2. By sense of smell we know bread is odorous.

3. By sense of touch we know bread is soft, adhesive, solid.

4. By sense of taste we know bread is palatable.

5. By experiment we know bread is compressible, absorbent, crumbling.

6. From previous knowledge we know bread is wholesome, nourishing, fermented, vegetable, useful.

Suggestions for Review Lessons.

Examination of cork and sponge. Resemblances and differences noted. Only a part of the work is given under each head, as this is intended to be suggestive only.

I.—Resemblances.

1. Qualities. Both are light, porous, elastic, compressible, opaque, tough, natural, brown, combustible, etc.

2. Qualities depending upon each other.

a. Both are useful, because elastic, light, tough, compressible, etc., etc.

b. Both are compressible, because porous, etc.

Similar for other qualities.

II.—Differences.

1. Qualities.

a. Sponge is absorbent, soft, animal, etc.

b. Cork is impervious, hard, vegetable, buoyant, etc.

2. Qualities depending upon each other.

a. Sponge is absorbent, because the pores are connected.

b. Cork is impervious, because the pores are not connected.

Similar for others.

III.—1. Uses.

a. Sponge is used for washing, binding on wounds, etc., etc.

b. Cork is used for stoppers to bottles, soles of boots, artificial limbs, life boats, life preservers, etc.

2. Qualities upon which uses depend.

a. Sponge is used for washing, because soft, elastic, tough, porous, compressible, absorbent, durable, etc.

Similar for other uses.

Give additional statements if desirable.

Additional Suggestions for Lessons on Manufactured Articles.

1. Of what substances made?
2. Why are these substances used?
3. Could any other substances be used?
4. For what purpose made?
5. Where made?

As far as practical, state the process of manufacture.

FORM.

First and Second Years.

Part I.—Apparatus: Box of forms.

Get ideas of surface, then apply to a description of the solids, cube, oblong (square prism), sphere, hemisphere, cylinder, cone and pyramid.

I.—Present a solid, (the cube is good), and get an idea of surface. Apply to other solids. Obtain the following:

1. The outside of this block is called its surface.
2. A rounded surface is called a curved surface.
3. A flat surface is called a plane surface.
4. Parts of the surface are called faces.
   a. A flat face is called a plane face.
   b. A rounded face is called a curved face.
5. The meeting of two faces forms an edge.
   a. The meeting of two plane faces forms a straight edge.
   b. The meeting of a plane face and a curved face forms a curved edge.
6. The meeting of edges forms a corner. Or, the place where edges meet is called a corner.
7. The picture of an edge is called a line.
   a. The picture of a straight edge is called a straight line.
   b. The picture of a curved edge is called a curved line.

Note. As each one of the above is obtained, apply to other objects than the one in hand; objects in the room, on the street, at home.

II.—Apply the ideas and terms obtained to a description of the solids named above as follows:

Cube.—This block has six plane faces, twelve straight edges, and eight corners. The faces are all of the same size. This block is called a cube.

Oblong.—This block has six plane faces, twelve straight edges and eight corners. Four of the faces are longer than the other two. This block is called an oblong.

Sphere.—This block has one equally curved face. This block is called a sphere.

Hemisphere.—This block has one curved face, one plane face and one curved edge, and is called a hemisphere.

Cylinder.—This block has one curved face, two plane faces and two curved edges, and is called a cylinder.

Cone.—This block has one curved face, one plane face and one curved edge. The curved face ends in (or tapers to) a point. This block is called a cone.

Pyramid.—This block has four, (five, six, or whatever the number may be) plane faces, eight straight edges, and four corners. Four of the edges meet in a point. This block is called a pyramid.

Note. As soon as any of the above descriptions are obtained, and terms given, apply to all the objects the children can see, and have them observe objects, at home or on the street, to which the description would apply.

Review line, then give:

Vertical Line.—A line drawn up and down, but neither to the right nor left, is called a vertical line.

Horizontal Line.—A line drawn to the right and left, but neither up nor down, is called a horizontal line.

Oblique Line.—A straight line that is neither vertical nor horizontal, is called an oblique line.

Parallel Lines.—Lines the same distance apart all their length are called parallel lines. Or this: Lines extending in the same direction and the same distance apart all their length are called parallel lines. The latter definition will be found the better preparation for what follows.

PART II.

Fifth Year.

First review parallel lines, then proceed to angle.

Angle.—The difference of direction of two lines is called an angle. (These lines would meet if extended.)

NOTE. 1. The *point* of this lesson is *difference of direction.* The meeting or not meeting of the lines is of minor importance. If the work is well done, children will generally find this out for themselves.

NOTE. 2. Before teaching right angle, the children must be given the idea of perpendicular lines. Their idea of lines perpendicular to each other is that they form a square corner or corners at the point of meeting. Teach that lines so meeting, or so extending that they would meet if continued, are perpendicular to each other. They are now ready for a definition of right angle.

Right Angle.—The difference of direction of two lines perpendicular to each other is called a right angle.

Acute Angle.—An angle smaller (or less) than a right angle is called an acute angle.

Obtuse Angle.—An angle greater than a right angle is called an obtuse angle.

Figure.—A picture of the face of a block is called a figure.

Triangle.—A figure having three sides and three angles is called a triangle.

Right-Angled Triangle.—A triangle having one right angle is called a right-angled triangle.

Acute-Angled Triangle.—A triangle having three acute angles is called an acute-angled triangle.

Obtuse-Angled Triangle.—A triangle having one obtuse angle is called an obtuse-angled triangle.

NOTE. If it seems desirable, equilateral, scalene and isosceles triangles may now be given, but it is generally better to leave them till the classification of plane figures is reached.

Four-Sided Figures or Quadrilaterals.

Square.—A four-sided figure having four right angles, and all the sides equal, is called a square.

Oblong.—A four-sided figure having four right angles, and two of the sides longer than the other two, is called an oblong.

Rhomb.—A four-sided figure having two opposite acute and two opposite obtuse angles, and all the sides equal, is called a rhomb.

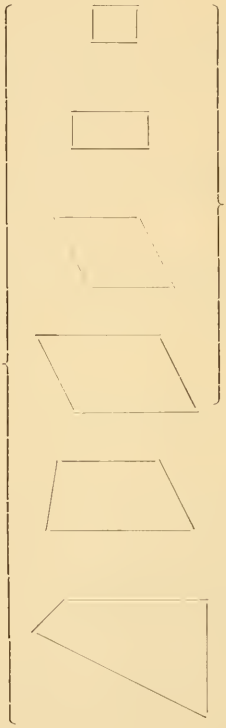
Rhomboid.—A four-sided figure having two opposite acute and two opposite obtuse angles, and two of its opposite parallel sides longer than the other two, is called a rhomboid.

Parallelogram.—A four-sided figure having its opposite sides parallel, is called a parallelogram.

Trapezoid.—A four-sided figure having only two of its sides parallel, is called a trapezoid.

Trapezium.—A four-sided figure having none of its sides parallel is called a trapezium.

NOTE. As soon as the term *parallelogram* is given, apply it to the square, oblong, rhomb and rhomboid. After giving trapezoid and trapezium, lead the pupils to see that while all are not parallelograms, all are alike in having four sides, therefore they can be distinguished by one term—quadrilaterals. For convenience the following form may be used:



Pentagon.—A figure having five sides is called a pentagon.

Hexagon.—A figure having six sides is called a hexagon.

Heptagon.—A figure having seven sides is called a heptagon.

Octagon.—A figure having eight sides is called an octagon.

Nonagon.—A figure having nine sides is called a nonagon.

Decagon.—A figure having ten sides is called a decagon.

Now classify as polygons all the plane figures given.

Polygon.—A figure having three or more sides is called a polygon.

The following will be found a convenient form :

Classification of Polygons.

Note. In the review of triangles previous to classification, equilateral, scalene and isosceles triangles may be added to those already given, should the teacher desire to do so.

- Polygons.
  - Triangles.
    - Right-Angled Triangle.
    - Acute-Angled Triangle.
    - Obtuse-Angled Triangle.
    - Equilateral Triangle.
    - Scalene Triangle.
    - Isosceles Triangle.
  - Quadrilaterals
    - Parallelograms.
      - Square.
      - Oblong.
      - Rhomb.
      - Rhomboid.
    - Trapezoid.
    - Trapezium.
  - Figures having more than four sides.
    - Pentagon.
    - Hexagon.
    - Heptagon.
    - Octagon.
    - Nonagon.
    - Decagon.

In placing the classification upon the board, have the children represent the figure after each name, e. g.

square,

oblong,

or, the figure may be substituted for the name, as in the classification of quadrilaterals.

Circle.—A surface bounded by a curved line, every point of which is equally distant from the center, is called a circle.

Circumference.—The line which bounds a circle, is called its circumference.

Diameter.—A straight line passing through the center of a circle and dividing it into two equal parts, is called its diameter.

Should the teacher so desire, the term radius may be given in a similar manner. May also talk about ellipse.

Much practice should be given in representing all the plane figures.

Solids.

Solid.—Because this block has length, breadth and thickness, it is called a solid. *May* generalize, and say, *anything* that has length, breadth and thickness, is called a solid.

Base.—The face upon which a solid rests is called its base.

Have pupils see that the ends of these solids are called bases.

Classes of Solids.

Prism, Cylinder, Cone, Pyramid, Sphere.

Prism.—A solid having polygons for its bases and parallelograms for its faces, is called a prism.

NOTE. Present different prisms, describe each, finding one has a triangle, another a square or an octagon, etc., for a base, and each has parallelagrams for faces, leading pupils to call them triangular prisms, square prisms, etc.

Cylinder.—A solid having two circular ends which are parallel and equal, and a curved face between, is called a cylinder.

Cone.—A solid having a circular plane base and a curved face which ends in (or tapers to) a point, is called a cone.

Pyramid.—A solid having a polygon for its base, and as many triangular faces meeting in a point as there are sides in the base, is called a pyramid.

Sphere.—A solid having a curved surface, every point of which is equally distant from the center, is called a sphere.

COLOR.

PART I.—First Year.

APPARATUS.—Color Chart, colored papers, cards, cubes, splints, wools (zephyr) colored beads (made of wood). The papers, cubes, splints and beads are inexpensive and may be obtained by sending to Milton Bradley Co., Springfield, Mass. If a regular color chart can not be obtained, one can be made with a sheet of white cardboard and the colored papers. Place the colored papers at a little distance from each other. Arrange the primary, secondary and complementary colors in groups. It is not necessary to teach the terms primary and secondary, but teach the harmony of the primary and secondary colors, or, in the children's own language, "what colors look pretty together." Colored papers and squares of cardboard with the aid of a little mucilage, will make colored cards to correspond with the chart. Have, in wools, several skeins each, of the primary and secondary colors. It is convenient to have a little of each color wound upon a piece of cardboard.

Teach the children to match, distinguish and name red, yellow, blue, orange, violet, green, brown and gray. Begin with the colored papers or cards. Distribute these, giving several to each one. Select one of the

brightest colors, red, for instance, hold it up before the class and ask each to select one of the same color, *not naming the color.* Hold the card in as good light as possible. If any child fails to find a card like it in color, place the card upon the desk or table before him. The difficulty may be with the difference in the light upon the cards, or, perhaps, in some defect of vision. After selecting all the cards of that color, have them find the same color upon the chart, holding the card beside that color upon the chart, for the decision of the class upon its correctness. Proceed with the remaining colors in a similar manner. Use the colored cubes for variety, directing the children to select all the cubes of each color, placing each group by itself. When the pupils can match the colors readily, the names may be used in connection with the colors. The wooden beads consist of cubes, spheres and cylinders of the various colors and are to be strung upon shoe-laces. Give the direction for selecting and holding up a cube, sphere or cylinder of a certain color, then place all beads of that color upon the string, and so on. In using the colored splints, each child may select the color he prefers to use and make with them some design upon the table or desk before him. Many other ways of giving variety will suggest themselves.

If there is a confusion of the colors with some pupil, which does not disappear with the experience in matching colors, arrange the wools and give further test. This difficulty is permanent with only a very few.

PART II.—Third or Fourth Year.

Very few will be able to obtain the apparatus for performing experiments with rays of light, discovering and combining what scientists consider the true primaries—red, green and violet. For a scientific discussion of this subject, see Students Text-Book of Color, by Ogden N. Rood, published by D. Appleton & Co., New York. Chevreul on Color contains valuable information on work with pigments.

Red, yellow and blue produce the other colors; therefore, for the purpose of these lessons, they will be considered primary colors. Show how the secondaries are formed from the primaries, by mixing paints before the class. Teach that each color has a standard and that it also has tints and shades. Give the name of the standard, lightest tint and darkest shade of each. Teach how tints and shades are made from the standard, using paints or colored ink. Also teach how hues are produced. The apparatus for this work consists of tube paints, oil, knife and white plates or earthern palette. Thin with oil and spread thinly and evenly. Colored inks are sometimes used, in which case small glasses will be necessary. Make tints by mixing milk with the ink. Water-colors may also be used. With pigments, use as standards crimson lake, chrome yellow and prussian blue. Colors are classed as primary, secondary and tertiary.

Primary colors are those which, mixed, will produce other colors, but are not themselves formed from other colors.

Secondary colors are those which are produced by mixing two primaries.

Tertiary colors are produced by the mixture of three primaries or of a primary and secondary color.

A standard of a color is the type of that color.

A shade of a color is darker than the standard of that color. Shades are made by mixing black with the standard, except in the case of yellow and orange, with which brown must be used.

A tint of a color is lighter than the standard of that color. Tints are made by mixing white with the standard.

The hue is the characteristic which distinguishes one color from another. There are three colors, one or all of which run through all tints and shades and either two or all three of these colors must be used in all combinations of color. The commingling of colors gives hues. Tone is the position any color or hue has in a scale from white to black. We may say a purplish hue of a light or dark tone.

Use the wools for selecting standards. If the color before the class is red, ask some pupil to arrange the wools, then select all the dark red, placing it by itself, and put all the light red in another place. This leaves a red that is neither dark nor light, or the reddest red, which is the standard red. Explain the use of the term *standard*, if it is not already familiar to the pupils. Next select the tints and shades, pupils defining each. Produce the tints and shades with the paints, the pupils carefully noting each step of the work, and summing up the result as follows: Tints of red are made by mixing white with the standard red. Shades of red are made by mixing black with the standard red. Similar for other colors, except shades of yellow and orange, for which use brown.

With the paints produce several hues, the pupils stating the result of each experiment.

Now produce the secondaries from the primaries, the pupils stating the result each time, e. g. Yellow and blue make green, etc.

Teach the use of the terms primary and secondary, and apply to their respective colors.

Produce the tertaries, the pupils giving the result of each mixture, e. g. Green and violet make olive. Green and orange make citrine. Violet and orange make russet. It is generally necessary to add a little black to make the tertaries. Teach the term *tertiary*, applying it to the proper colors.

Drill and Test—Have the pupil select all the colors, including tints, shades and hues, from worsteds furnished for that purpose, also bring to the class such colored objects as they can procure, verifying by means of the worsteds or paints. Name a secondary color, pupils name the primaries that produce it; name two primary colors, pupils state the secondary they would produce; select a color, pupils state whether primary, secondary or tertiary, giving the reason. Use any other means of testing that may suggest itself at the time.

Group colors under their respective standards, giving the names of several tints and shades.

The following may be found useful:

Standards.	*Lightest Tints.*	*Darkest Shades.*
Red—Carmine.	Flesh Color.	Crimson.
Blue—Ultramarine.	Pale Blue.	Indigo.
Yellow—Chrome Yellow.	Straw Color.	Saffron.
Green—Emerald.	Pea-Green.	Invisible Green.
Orange—Orange.	Cream-Color.	Sorrel.
Violet—Violet.	Mauve.	Plum.
Brown—Chocolate.	Russet.	Umber.
Gray—Normal Gray.	Pearl Gray.	

Classification of Some of the Common Colors.

Red.	*Yellow.*	*Blue.*	*Orange.*
Carmine.	Chrome Yellow.	Ultramarine.	Orange.
Scarlet.	Saffron.	Indigo.	Cream-Color.
Vermilion.	Sulphur.	Prussian Blue.	Sorrel.
Crimson.	Canary.	Cobalt Blue.	Buff.
Cherry.	Straw-Color.	Turquoise.	Salmon.
Magenta.	Primrose.	Azure Blue.	Corn-Color.
Garnet.	Lemon.	Pale Blue.	
Rose-Color.	Ochre.		
Pink.	Citrine.		
Flesh-Color.	Golden.		

Green.	*Violet.*	*Brown.*	*Gray.*
Emerald Green.	Violet.	Chocolate.	Normal Gray.
Invisible Green.	Purple.	Russet.	Pearl Gray.
Pea-Green.	Mauve.	Dark brown (Umber)	Steel Gray.
Tea-Green.	Plum.	Chestnut.	Iron Gray.
Sea-Green.	Lilac.	Auburn.	French Gray.
Olive.	Lavender.	Hazel.	Slate.
Grass-Green.	Amaranth.	Snuff.	Ash Gray.
Beryl.		Tan-Color.	

Harmony of Color.

Begin with the harmony of a primary with a secondary, giving first the harmony of each primary with its complementary secondary. These are the most striking, and show most clearly the idea that all the primary colors must be present when there is a harmony; e. g., blue and orange harmonize, because orange is made of yellow and red. Also show that blue

and green do not harmonize, because red is wanting, etc. Next take the harmony of secondaries, with secondaries, tracing the presence of the three primary colors. After this follow harmony of tertiaries with primaries, of tertiaries with secondaries, and of tertiaries with tertiaries. It adds greatly to the interest of this part of the work, to have colored blocks, or colored papers cut into suitable shapes for patterning. Triangular forms and squares are the most suitable for this purpose.

ETHICAL INSTRUCTION.

"Ethical training in public schools, from the nature of the case, must be largely incidental, but the spirit of true ethics should pervade every exercise. The school training should develop clear perceptions of right and wrong, love of truth and justice, cheerful obedience to law, respect for the rights of others, and honest desire to learn duty and to discharge it with fidelity."—Art of School Management. *Baldwin.*

The standard of right is intellectual and may be taught like other intellectual truth, but moral tone—what is popularly meant by morals, is emotional, hence can not be inculated in the same way or by the same agency as intellectual truth. Moral activity in children is largely imitative, hence "morals" must be taught by example rather than by precept.

While ethical instruction finds no place in the program, the daily occurrences of the schoolroom and playground afford opportunities for the enforcement of moral truths. Training children in habits of personal neatness, proper care of books and desks and the practice of little courtesies, tends to increase their self-respect. The example of the teacher, in this direction, is more powerful than all the other influences that can be brought to bear. The neat and attractive appearance of the school-room, with whatever of adornment can be obtained in the way of pictures, plants, flowers, etc., render the children more susceptible to moral influence. Pleasant surroundings tend to open the heart to good impressions.

Whatever evils may be observed either in the schoolroom or on the playground should receive careful attention. Distinguish between intentional and accidental or unintentional wrong doing. The spirit of fun and frolic so natural to childhood should be allowed proper exercise within lawful bounds; and the teacher who can sympathize with and enjoy the happiness of children in the rational exercise of this spirit, will be in a position to exert a strong influence toward banishing from the playground selfishness and unkindness and promoting a spirit of harmony and good-will.

Teach the children to be kind and helpful toward any of their companions who, through weakness or misfortune, are physically unable to enter into

their active sports, also to care for and protect those younger than themselves.

Call attention to the lives of those who are respected and honored, and impress the idea that every temptation to wrong doing successfully resisted, is a gain toward the attainment of a true and worthy manhood and womanhood. While appreciating every attempt to reach a higher standard, have patience with failures. It is not well to refer too frequently to the wrong doings of children, or to be continually reproving them, for whatever is kept constantly before the mind makes the most durable impression. When it becomes necessary to reprove, let it be done in such a manner as to bring conviction of the wrong, but let it not be in a fault-finding way. Then immediately resume the interrupted work and with it the ordinary manner. Constant "nagging" arouses in children an almost irresistible desire to repeat a wrong act or to invent new means of giving annoyance.

Cultivate a spirit of loyalty to the school. Impress each pupil with a sense of personal responsibility for the character of the school. Its interests are their interests, its reputation is in their hands, for they *are* the school.

Sometimes a story, bright and to the point, will aid in enforcing a moral truth or correcting an evil. It is not always necessary to call for or point out the moral of a story read or related for such a purpose. If the story is to the point, the moral will be obvious and may safely be left to take care of itself. Read nothing to children that does not tend to elevate the moral tone by placing before the pupils higher standards of right. The duty of a teacher to the child as a whole, is to teach and train the whole child for the relations and responsibilities of life, in the present and in the future.

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